

Appl. No. 10/773,371  
Reply to Office Action of April 25, 2005

**REMARKS/ARGUMENTS**

Claims 20 and 25 have been corrected to reflect their original presentation. Support for these changes, if necessary, can be found in the specification on page 17, line 7 and on page 18, line 8, respectively.

Claim 18 (currently amended) is original claim 19 (which is now canceled). This is accomplished by combining claims 17-19 and this combination is presented as claim 18 (currently amended). Claim 17 is amended to include the features of original claim 19 (but not claim 18). As a result of these amendments, most of the rejections, including the double patenting rejection, are avoided.

The only rejection applied to claim 19 is the rejection on pages 5 and 6 of the Office Action which is a rejection of claims 18-20, 22 and 27 under 35 USC 103(a) as being unpatentable over Kobayashi et al. or Ichinose et al. All of the claims, except for claim 18 which is amended as noted above to be independent, depend either directly or indirectly from claim 17 which contains the inventive subject matter of claim 19.

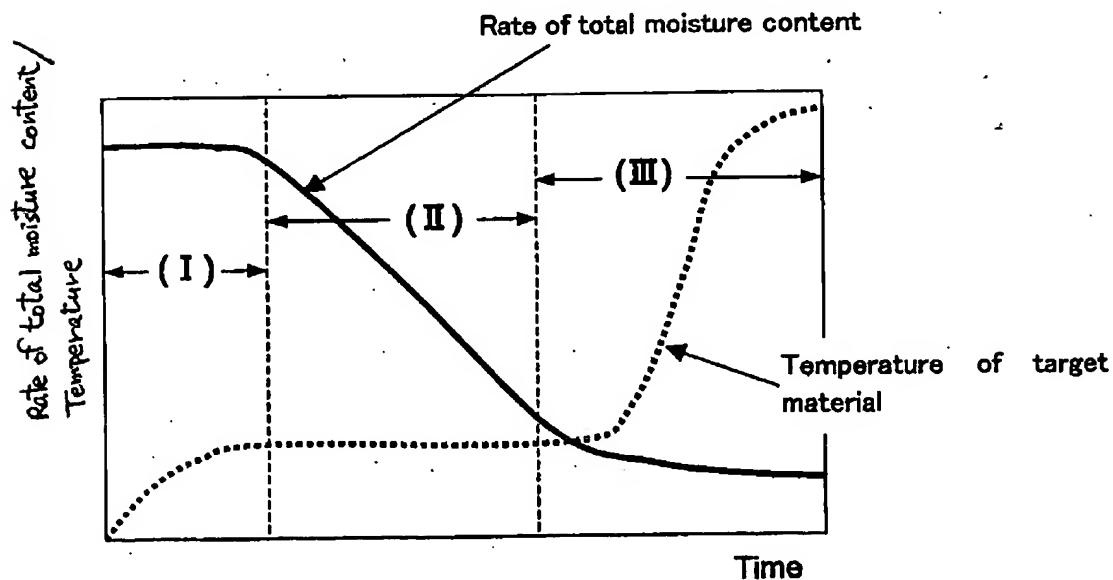
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Concerning Kobayashi et al., the present invention is related to the "on-line overcoat" disclosed on pages 9-10 in the specification.

Kobayashi et al. does not disclose the "on-line overcoat," a constant drying rate period and a falling drying rate period. Since this distinguishes over Kobayashi, applicants explain the meaning of the drying rate periods, below. These are not shown or suggested by Kobayashi.

Referring to the explanation on pages 20-22 of the specification, the following drawing demonstrates the process of a constant drying rate period and a falling drying rate period.



- (I) a preheating period
- (II) a constant drying rate period
- (III) a falling drying rate period

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As explained in the specification at page 21, last paragraph, the constant drying rate period is primarily due to the evaporation of the water and solvents, which are relatively free to evaporate. When these have gone off, the remaining water and solvents are those that interact with the hydrophilic binders and are not so easily free to evaporate. Thus the heating causes the surface temperature to rise in order to provide not only the necessary latent heat of vaporization, but also the energy to release the interaction. This is the falling drying rate period. Void formation generally starts during this period (page 22, lines 1-5).

Ichinose et al. does not disclose the "on-line overcoat," but rather discloses separated coating lines. This feature from claim 19 is added to all of the claims.

The Examiner's comments concerning ink showing the requirement of claim 17(c) are moot in view of the clarification to claim 17 that step 17(c) is part of the manufacturing process for the recording sheet - not the printing by ink.

The present invention is clearly distinguished from Kobayashi and Ichinose. As stated above, Kobayashi and Ichinose

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do not disclose the "on-line overcoat." Furthermore, Kobayashi and Ichinose do not disclose or suggest

"incorporating a solution containing an additive into the porous layer after the completion of the constant drying rate period in the same coating line used for coating the aqueous coating composition to form the porous layer"

and

"incorporating a solution containing an additive into the porous layer after the completion of the constant drying rate period in the same coating line used for coating the aqueous coating composition to form the porous layer."

The inventors of the present invention have found an appropriate timing to incorporate the solution containing an additive in the "on-line overcoat." That is, the timing to incorporate a solution and the "on-line overcoat (in the same coating line)" are not a matter of choice.

As described in the present specification, it is possible to provide a high quality ink-jet recording sheet, having a porous layer, which results in very little cracking production, decreases fluctuation in manufacturing quality and improves the coating uniformity through the incorporation of each of the functional additives, employing an over coating method.

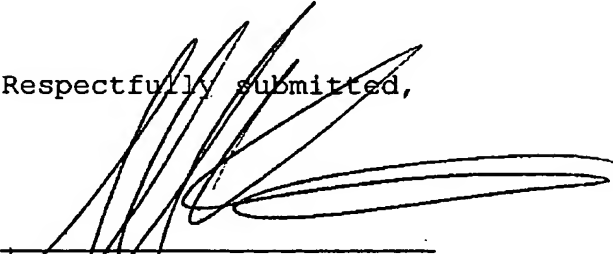
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Reconsideration of the double patenting rejection is requested in view of the changes to the claims.

In view of the above, withdrawal of the rejections and allowance of the application are respectfully requested.

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